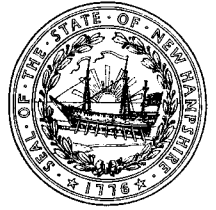




The State of New Hampshire  
**Department of Environmental Services**



Michael P. Nolin  
Commissioner

**LETTER OF DEFICIENCY  
WD WWEB/C 06-005**

April 11, 2006

Ms. Melodie Esterberg, P.E.  
Director  
Department of Public Works  
City of Rochester  
45 Old Dover Road  
Rochester, New Hampshire 03867

Subject: National Pollutant Discharge Elimination System (NPDES)  
Compliance Sampling Inspection (CSI)  
Rochester Wastewater Treatment Facility (WWTF), NPDES Permit # NH0100668

Dear Ms. Esterberg;

On March 9, 2006, as a representative of the Department of Environmental Services, Water Division, Wastewater Engineering Bureau (DES), Stephanie Larson conducted a NPDES CSI at the Rochester WWTF. Objectives of a CSI include determining compliance with NPDES permit conditions, verifying accuracy of permit required information and adequacy of permittee sampling and monitoring.

The following people were present during this CSI:

Kristen Henderson, Lead Operator, Rochester WWTF  
Stephanie Larson, DES Environmental Inspector

Included are copies of EPA's Water Compliance Inspection Report Form 3560-3 and the sample results for the compliance sampling event. The laboratory results for *Escherichia coli* (E. coli), Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>) and Total Suspended Solids (TSS) were within the allowable permit discharge limitations.

During the inspection Stephanie noted the following deficiencies:

**Deficiencies (Response Required):**

- 1) E. coli
  - a) Personnel could not locate a copy of EPA 1103.1 - their analytical method. Personnel should have a copy of each analytical method used. Enclosed is a copy of this method for your reference.

2) pH

- a) Standard Methods, Method 4500-H<sup>+</sup> B is referenced as your method of analysis. However, personnel follow the procedures in EPA method 150.1. Personnel should change their records and update their Quality Assurance/Quality Control (QA/QC) manual. Enclosed is a copy of this method for your reference.
- b) Calibration of your pH meter is required by the method and is part of the minimum QA procedures required by Part II, Section B.1 of your permit. The approved analytical methods listed in 40 CFR 136 require the calibration buffers to bracket the expected results and be approximately 3 SU apart. Personnel calibrate their pH meter using pH buffers 7.0 and 4.0 SU, however their effluent pH results are always greater than 7.0 SU. Personnel must change their calibration procedure to meet the method requirements. For example, personnel could calibrate their pH meter using buffers 7.0 and 10.0 SU. The QC standard analyzed to verify this calibration should be close to the expected sample pH and between the two calibration buffers, such as an 8.0 or 9.0 SU buffer.

3) CBOD<sub>5</sub>

- a) The CBOD<sub>5</sub> benchsheet and all CBOD<sub>5</sub> results are labeled BOD<sub>5</sub>. Personnel should correct their benchsheets and QA/QC manual to reflect the correct test procedure.
- b) Because Rochester is testing for CBOD<sub>5</sub>, personnel should add a note to their benchsheets that nitrification inhibitor is added to the dilutions prior to incubation.
- c) On the December 30, 2005 CBOD<sub>5</sub> benchsheet, the analyst wrote "the sample volumes on influent sample bottles might be backwards." The analyst then wrote over the original sample and bottle volumes and used these values in that day's influent test calculations. Personnel should have invalidated these test results and not used them in their calculations. Personnel must recalculate that day's influent results and resubmit a resigned and redated Discharge Monitoring Report (DMR) to EPA and DES. Personnel should update their Monthly Operations Report (MOR) and resubmit this also.

4) TSS

- a) Standard Methods, 20<sup>th</sup> Edition, Method 2540 D, requires the additional cycles of drying at 103-105°C, cooling, desiccating and weighing be done for both the filter preparation and the analysis of the filter plus the sample. Although this is done for the filter plus the sample, personnel do not do the additional cycles for filter preparation. Personnel must begin this process for the filter preparation step and record the additional weighing results.
- b) Personnel label the drying oven information "incubation." Personnel should correct their benchsheet to reflect the correct test information.
- c) Personnel do not always fill in all of the calculation results on the TSS benchsheet. Personnel should ensure that all method required information is recorded for each test.

5) Ammonia Nitrogen as Nitrogen (NH<sub>3</sub>-N)

- a) Rochester's NPDES permit requires that three NH<sub>3</sub>-N samples be analyzed each week. Personnel did not analyze any samples for the week of March 20, 2005. To ensure that this does not happen again a 'reminder note' was added to the Daily Bench Sheet that the operator has to check off showing that the three samples were analyzed.
- b) Personnel do not record the composite end dates and times. Personnel should make sure that the beginning and end dates and times are recorded on your benchsheets.

6) Chain-of-Custody (COC)

COCs are used to document the custody and handling of samples.

- a) The COCs for your 2005 Whole Effluent Toxicity (WET) test samples have “relinquish” and “receipt” times that need to be explained. The following table shows the information in question:

<u>Quarter</u>	<u>Date</u>	<u>Relinquish Time</u>	<u>Receipt Time</u>
First	January 12, 2005	11:00 a.m.	3:30 p.m.
	January 14, 2005	9:15 a.m.	9:40 a.m.
	January 16, 2005	9:55 a.m.	10:05 a.m.
Third	July 11, 2005	11:05 a.m.	2:30 p.m.
	July 13, 2005	10:35 a.m.	11:55 a.m.
Fourth	October 10, 2005	11:15 a.m.	2:00 p.m.
	October 12, 2005	10:35 a.m.	1:40 p.m.
	October 14, 2005	9:45 a.m.	9:25 a.m.

Please explain these discrepancies between the “relinquish” and “receipt” times. Personnel should ensure that the dates and times samples are relinquished and received are correct. Personnel should have contract laboratory personnel sign for the samples upon receipt. Furthermore, custody of the samples must be accounted for from the time the sample is collected to the time the sample is analyzed.

- b) The COC lists all of the tests a facility wants analyzed. Rochester’s WET test COCs did not list the Day 1 effluent and diluent NH<sub>3</sub>-N analyses for all four quarters of 2005 and TS/TSS analyses for the first quarter of 2005. Personnel should add these parameters to their COCs.
- 7) When correcting mistakes, personnel write over benchsheet information. When correcting readings on benchsheets, personnel should draw a single line through the mistake, write in the correct value, and then initial the correction. Writing over or erasing mistakes is not an acceptable laboratory or QA practice.
- 8) Although personnel check the facility alarm system daily, they do not write down that this was done. Personnel should record this information in their records.

**Repeat Deficiencies (Noted in February 25, 2004 NPDES inspection – Response Required)**  
**If these repeat deficiencies are noted in any subsequent inspection then DES may proceed immediately with formal enforcement action which may include an administrative fine.**

- 9) Rochester personnel have not been completing their DMRs according to the EPA’s instructions:
- a) February 2005: personnel did not report the units for the TSS monthly average and daily maximum loading results.
  - b) April 2005: the DMR was postmarked on May 18, 2005, not by May 15, 2005 as required.
  - c) August 2005: personnel did not correctly calculate the NH<sub>3</sub>-N weekly average loading.

- d) November 2005: personnel corrected the effluent flow Frequency of Analysis code but did not initial the correction
- e) November 2005: personnel did not correctly calculate the TSS monthly average loading.
- f) December 2005: personnel did not correctly calculate the CBOD<sub>5</sub> monthly average loading.

Items a) through f) were corrected by facility personnel.

When signing DMRs, personnel certify that the information reported is true, accurate and complete. Personnel should cross-check their calculations to prevent mistakes and misreporting which are violations of your permit

**Recommendations/Observations (No Response Required):**

- 1) DES recently changed its address to 29 Hazen Dr., P.O. Box 95, Concord, NH 03302-0095. Please note this for your records.

**Corrective Actions Required:**

DES requests that Rochester describe all steps taken to correct the deficiencies identified by the inspector. This description should also include the dates the deficiencies were corrected or the anticipated correction date. When the response is complete, the **responsible official** for the municipality or the industry must sign the response. If the submitted response is acceptable to DES and the deficiencies are not repeat deficiencies and/or have not resulted in environmental harm, we will close out the inspection and no further action, other than continued compliance, is required by the permittee. If DES identifies repeat deficiencies or deficiencies that result in environmental harm in this or future inspections, DES may proceed immediately with enforcement.


DES requests that you submit your response to this inspection by **May 11, 2006**. If DES does not receive a complete response signed by the appropriate official within the allowed time frame, DES may proceed with an appropriate enforcement action.

Please mail your inspection response to:

Stephanie Larson  
NHDES-WWEB  
P.O. Box 95  
Concord, NH 03302-0095

If you have any questions, please call Stephanie at (603) 271-1493.

Sincerely,

  
John R. Bush, P.E.  
Administrator  
Wastewater Engineering Bureau

Enclosures: EPA form 3560-3  
CSI sampling results  
EPA E. coli method 1103.1  
EPA pH method 150.1

cc: DES, WD, WWEB/File  
Stephanie Larson, Environmental Inspector, WWEB  
Margaret Bastien, P.E., Supervisor, WWEB  
Gretchen Hamel, Enforcement Coordinator, DES  
Joy Hilton, USEPA Water Technical Unit

CERTIFIED MAIL/RRR: 7099 3400 0018 1294 3653